

AMENDMENTS TO THE CLAIMS

Following is a complete set of claims as amended with this Response. This complete set of claims excludes cancelled claims 1, 11, 17, 23, and 28, and includes amended claims 2-10, 12-16, 18-22, 24-27, 29, and 30 and new claims 31-45.

1. (Cancelled)
2. (Currently Amended) A method as recited in claim [[1]] 7 further comprising:
 - detecting a cardiac fibrillation;
 - administering a therapeutic shock to the heart of the patient at the adjusted DFSE set by the adjusting.
3. (Currently Amended) A method as recited in claim [[1]] 7 further comprising:
 - detecting a cardiac atrial fibrillation (AF);
 - administering a therapeutic shock to an atrium of the patient at the adjusted DFSE set by the adjusting.
4. (Currently Amended) A method as recited in claim [[1]] 7 further comprising:
 - detecting a cardiac ventricular fibrillation (VF);
 - administering a therapeutic shock to an ventricle of the patient at the adjusted DFSE set by the adjusting.
5. (Currently Amended) A method as recited in claim [[1]] 7, wherein the improved DFSE for the patient approximately corresponds with a defibrillation threshold (DFT) of the patient.

6. (Currently Amended) A method as recited in claim [[1]] 7, wherein the improved DFSE for the patient approximately corresponds with an optimum DFSE of the patient.

7. (Currently Amended) [[A method as recited in claim 1,]] A method for determining an improved defibrillation shock energy (DFSE) for a patient, the method comprising:

monitoring and tracking cardiac data of a patient by an implantable cardiac therapy device (ICTD);

analyzing such cardiac data by the ICTD;

automatically adjusting the DFSE to a level based on cardiac data so that the ICTD may deliver a therapeutic shock at an energy level approximating an improved DFSE for the patient;

wherein the cardiac data comprises data selected from a group consisting of cardiac rate, cardiac fibrillation rate, and time since last therapeutic shock[[, and time since fibrillation onset]].

8. (Currently Amended) An ICTD comprising circuitry that performs the method as recited in claim [[1]] 7.

9. (Currently Amended) An ICTD comprising a computer-readable medium having computer-executable instructions that, when executed by a computer, performs the method as recited in claim [[1]] 7.

10. (Currently Amended) A computer-readable medium having computer-executable instructions that, when executed by a computer, performs the method as recited in claim [[1]] 7.

11. (Cancelled)

12. (Currently Amended) A method as recited in claim ~~[[11]]~~ 13 further comprising:
detecting a cardiac atrial fibrillation (AF);
administering a therapeutic shock to an atria of the patient at the adjusted AF-DFSE set by the adjusting.

13. (Currently Amended) ~~[[A method as recited in claim 11,]]~~ A method for determining an improved atrial fibrillation defibrillation shock energy (AF-DFSE) for a patient, the method comprising:
monitoring and tracking cardiac data of a patient by an implantable cardiac therapy devices (ICTDs) , wherein such data comprises atrial activity data;
analyzing such cardiac data by the ICTD;
automatically adjusting the AF-DFSE to a level based on cardiac data so that the ICTD may deliver a therapeutic shock at an energy level approximating an improved AF-DFSE for the patient;

wherein the cardiac data comprises data selected from a group consisting of cardiac rate, cardiac fibrillation rate, and time since last therapeutic shock~~[[, and time since fibrillation onset]]~~.

14. (Currently Amended) A method as recited in claim ~~[[11]]~~ 13, wherein the improved AF-DFSE for the patient approximately corresponds with an optimum AF-DFSE of the patient.

15. (Currently Amended) An ICTD comprising circuitry that performs the method as recited in claim ~~[[11]]~~ 13.

16. (Currently Amended) A computer-readable medium having computer-executable instructions that, when executed by a computer, performs the method as recited in claim ~~[[11]]~~ 13.

17. (Cancelled)

18. (Currently Amended) A method as recited in claim [[17]] 19 further comprising:

detecting a cardiac ventricular fibrillation (VF);

administering a therapeutic shock to an ventricle of the patient at the adjusted VF-DFSE set by the adjusting.

19. (Currently Amended) [[method as recited in claim 17,]] A method for determining an improved ventricular defibrillation shock energy (VF-DFSE) for a patient, the method comprising:

monitoring and tracking cardiac data of a patient by an implantable cardiac therapy device (ICTD), wherein such data comprises ventricle activity data;

analyzing such cardiac data by the ICTD;

automatically adjusting the VF-DFSE to a level based on cardiac data so that the ICTD may deliver a therapeutic shock at an energy level approximating an improved VF-DFSE for the patient;

wherein the cardiac data comprises data selected from a group consisting of cardiac rate, cardiac fibrillation rate, and time since last therapeutic shock[[, and time since fibrillation onset]].

20. (Currently Amended) A method as recited in claim [[17]] 19, wherein the improved VF-DFSE for the patient approximately corresponds with an optimum VF-DFSE of the patient.

21. (Currently Amended) An ICTD comprising circuitry that performs the method as recited in claim [[17]] 19.

22. (Currently Amended) A computer-readable medium having computer-executable instructions that, when executed by a computer, performs the method as recited in claim [[17]] 19.

23. (Cancelled)

24. (Currently Amended) A method as recited in claim ~~[[23]]~~ 25, wherein the adjusting comprises reducing the energy level to a minimum while maintaining a high degree of probability of successful efficacious treatment.

25. (Currently Amended) ~~[[A method as recited in claim 23,]]~~ A method for treating a patient suffering from atrial fibrillation using cardiac stimulation, the method comprising:

statistically processing cardiac data, wherein such data comprises atrial activity data;

automatically adjusting an energy level of a cardiac atrial stimulation for a treatment based on the processing of the cardiac data;

automatically setting an ICTD to deliver a cardiac atrial stimulation at the adjusted energy level;

wherein the cardiac data comprises data selected from a group consisting of cardiac rate, cardiac fibrillation rate, and time since last therapeutic shock~~[[, and time since fibrillation onset]]~~.

26. (Currently Amended) An ICTD comprising circuitry that performs the method as recited in claim ~~[[23]]~~ 25.

27. (Currently Amended) A computer-readable medium having computer-executable instructions that, when executed by a computer, performs the method as recited in claim ~~[[23]]~~ 25.

28. (Cancelled)

29. (Currently Amended) An ICTD as recited in claim ~~[[28]]~~ 30, wherein the processor is further configured to reducing the energy level to a minimum while maintaining a high degree of probability of successful efficacious treatment.

30. (Currently Amended) [[An ICTD as recited in claim 28,]] An ICTD comprising:
a memory configured to store cardiac data;
a processor configured to:
statistically process the cardiac data, wherein such data comprises atrium activity data;
automatically adjust an energy level of a cardiac atrial stimulation for a treatment based on the processing of the cardiac data;
automatically set the ICTD to deliver a cardiac atrial stimulation at the adjusted energy level;
wherein the cardiac data comprises data selected from a group consisting of cardiac rate, cardiac fibrillation rate, and time since last therapeutic shock[[, and time since fibrillation onset]].
31. (New) A method as recited in claim 7, wherein the magnitude of the therapeutic shock is a linear function of the cardiac fibrillation rate.
32. (New) A method as recited in claim 7, wherein the magnitude of the therapeutic shock linearly increases with the time since fibrillation onset.
33. (New) A method as recited in claim 7, wherein the magnitude of the therapeutic shock is adjusted based on U-shaped correlation with the time since last therapeutic shock.
34. (New) A method as recited in claim 13, wherein the magnitude of the therapeutic shock is a linear function of the cardiac fibrillation rate.
35. (New) A method as recited in claim 13, wherein the magnitude of the therapeutic shock linearly increases with the time since fibrillation onset.

36. (New) A method as recited in claim 13, wherein the magnitude of the therapeutic shock is adjusted based on U-shaped correlation with the time since last therapeutic shock.

37. (New) A method as recited in claim 19, wherein the magnitude of the therapeutic shock varies linearly with the cardiac fibrillation rate.

38. (New) A method as recited in claim 19, wherein the magnitude of the therapeutic shock varies linearly with the time since fibrillation onset.

39. (New) A method as recited in claim 19, wherein the magnitude of the therapeutic shock is adjusted based on U-shaped correlation with the time since last therapeutic shock.

40. (New) A method as recited in claim 25, wherein the magnitude of the adjusted energy level varies linearly with the cardiac fibrillation rate.

41. (New) A method as recited in claim 25, wherein the magnitude of the adjusted energy level varies linearly with the time since fibrillation onset.

42. (New) A method as recited in claim 25, wherein the magnitude of the adjusted energy level is a U-shaped function of the time since last therapeutic shock.

43. (New) An ICTD as recited in claim 30, wherein the magnitude of the adjusted energy level varies linearly with the cardiac fibrillation rate.

44. (New) An ICTD as recited in claim 30, wherein the magnitude of the adjusted energy level varies linearly with the time since fibrillation onset.

45. (New) An ICTD as recited in claim 30, wherein the magnitude of the therapeutic shock is adjusted based on U-shaped correlation with the time since last therapeutic shock.